

CLAIMS

What is claimed is:

- 5 1. A method of compiling a computer program with inline specialization, the method comprising:  
given a call-graph, if multiple call-chains in it have at least one common call site, the ability, to inline a common call site in one or more (but not all) of the call-chains.
- 10 2. The method of claim 1, further comprising:  
whenever a call site from routine x to routine y is inlined, new edges are added from routine x to all routines inlinable within routine y.
- 15 3. The method of claim 2, further comprising:  
materialization of summary information for new call sites added to the call-graph.
- 20 4. The method of claim 3, further comprising:  
addition of the new call sites to the global work-list so that these call sites are considered for inlining.
- 25 5. The method claim 4, further comprising:  
addition of dependence relationships between call sites. If a new call site, y, is added because of inlining of call site, x, then y is dependent on x.
- 30 6. The method of claim 5, further comprising:  
patching of the new call site, y, during inline transformation of call site, x, with the aim of generating the intermediate transformation for call site, y.
7. An apparatus for compiling a computer program with inline specialization which includes the ability, to inline a common call site in one or more (but not all) of the call-chains in a call-graph.

8. The apparatus of claim 7, wherein whenever a call site from routine x to routine y is inlined, new edges are added from routine x to all routines inlinable within routine y.
- 5 9. The apparatus of claim 8, wherein materialization of summary information for new call sites added to the call-graph is performed.
10. The apparatus of claim 9, wherein the new call sites are added to the global work-list so that these are considered for inlining.
- 10 11. The apparatus of claim 10, wherein dependence relationships are created between call sites.
- 15 12. The apparatus of claim 11, wherein the inline transformation patches up the intermediate representation of the new call sites (by considering the dependence relationships) before potentially inlining them.
- 20 13. A computer program product comprising a computer-usable medium having computer-readable code embodied therein, the computer program product being compiled from source code, including inline specialization such that given a call-graph, if multiple call-chains in it have at least one common call site, the ability exists to inline a common call site in one or more (but not all) of the call-chains.